

## CLAIMS

WHAT IS CLAIMED IS:

1. A scanning device for a position measuring system for scanning a scale graduation comprising:
- a probe being operatively connected with the scale graduation and being supplied with electric power over a plurality of electrical connections;
  - an electronic module being electrically coupled to the probe;
  - a housing of the electronic module for shielding the electronic module from the surroundings; and
  - means for limiting the supply of current to the probe, wherein at least one fuse is provided in the electrical connections, leading to the probe, within the housing, for interrupting the flow of current to the probe when the temperature produced as a result of the current flow exceeds a specific value, and wherein the housing of the electronic module further forms the housing of the at least one fuse.
2. The scanning device of claim 1, wherein the fuse is formed by a sectional constriction of a cross section of the electrical connections.
3. The scanning device of claim 1, wherein the fuse is formed by a section of the electrical connections having an electrically conductive material of at least one of a lower melting point and a higher specific resistance.
4. The scanning device of claim 1, wherein the fuse is disposed behind the electric connections that are between the probe and the electronic module and within the housing.

5. The scanning device of claim 1, wherein a fuse is provided for each of the electrical connections extending partially outside of the housing.

6. The scanning device of claim 1, wherein the electrical connections comprise ~~conductor strips.~~

7. The scanning device of claim 1, wherein the housing comprises aluminum.

8. The scanning device of claim 1, wherein the probe scans the scale graduation according to at least one of the inductive principle of measurement, the magnetic principle of measurement and the photoelectric principle of measurement.

9. The scanning device of claim 8, wherein the probe is a magnetoresistive probe.